

 <p><b>Pollution Prevention</b> Case Study</p>	<p align="center"><b>Gerry Wood Products Company</b></p> <p align="center"><b>Alternative coating to reduce volatile organic compound (VOC) emissions from lacquer coating operations</b></p>
<p><b><i>Standard Industrial Classification (SIC)</i></b></p>	<p>Manufacturer of wooden juvenile furniture and expansion gates; SIC 2511.</p>
<p><b><i>Process</i></b></p>	<p>Finish coating for wood furniture.</p>
<p><b><i>Type of Waste</i></b></p>	<p><i>Solid Wastes</i> Scrap wood and office wastes. Waste coatings which test as non-hazardous are sent for fuel-blending.</p> <p><i>Hazardous Wastes</i> Spent solvents.</p> <p><i>Air Emissions</i> Volatile organic compounds (VOCs) from coating operations and associated cleanup.</p>
<p><b><i>Strategies</i></b></p>	<p><i>Material Substitution</i> Dry application of a formulated wax coating for selected parts in lieu of a lacquer coating.</p>
<p><b><i>Background</i></b></p>	<p>Gerry Wood Products presently employs approximately 300 people and produces over 1.8 million units per year.</p> <p>Many of Gerry's product components, such as wooden slots and rods, are finished by means of a tumbling process. Previously, the finishing process consisted of loading component parts into a barrel, pouring lacquer-type finishing material in the barrel and rotating it until coverage of the components was smooth and uniform.</p> <p>This process had been cost-effective and efficient. However, the lacquer-type finish that had been used in the tumbler was a significant source of VOC emissions in the facility.</p>
<p><b><i>Motivation</i></b></p>	<p>To reduce VOC emissions while improving the air quality of the work environment.</p>
<p><b><i>Changes Implemented</i></b></p>	<p>In 1992, Gerry completed a transition to a new material that allows the facility to produce over 80% of the total tumbled production without VOC emissions. The replacement material is a formulated granular wax material that is tumbled with the parts using the original equipment. There are no known hazards associated with this material.</p>
<p><b><i>Problems Encountered</i></b></p>	<p>None.</p>
<p><b><i>Material/Energy Balance</i></b></p>	<p><b><i>Original Approach</i></b></p> <p><b>Feedstock</b></p>

	<p>Liquid lacquer.</p> <p><b>Waste</b> VOC emissions from the curing of tumbled lacquer coated products and other hazardous wastes from daily cleanup.</p> <p><b>Disposal</b> Air emissions.</p> <p><b>Pollution Prevention Approach</b></p> <p><b>Feedstock</b> Dry formulated wax.</p> <p><b>Waste</b> VOC emissions have been reduced by 44,800 pounds per year. Also, hazardous wastes from daily cleanup have been reduced by 5,000 pounds per year.</p> <p><b>Disposal</b> Air emissions. The working environment no longer requires a special air supply or exhaust to remove the VOCs.</p>
<b>Economics</b>	<p><b>Capital Costs</b> No new capital costs.</p> <p><b>Operating/Maintenance Costs</b> Daily cleanup, labor and waste costs have all been reduced.</p> <p><b>Payback Period</b> Immediate. Annual savings of over \$200,000 have been realized.</p>
<b>Other Environmental Programs</b>	Gerry already uses ultraviolet (UV) coatings, and both electrostatic and air-assisted airless spray equipment, to reduce VOC emissions and to increase transfer efficiency.
<b>Planned Future Waste Reduction Projects</b>	Realizing the cost savings and environmental benefits of eliminating waste, Gerry is vigorously pursuing reuse of the collected overspray from its spray coating operations. Testing is underway to facilitate possible reformulation of collected dry overspray powder into a reusable coating material.
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**Pollution Prevention Information Clearinghouse**

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